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Flying Operations

AIRCREW LIFE SUPPORT (ALS) PROGRAM

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This instruction implements Air Force Policy Directive (AFPD) 11-3, *Life Support*. It sets responsibilities for the Air Force ALS Program. Major commands (MAJCOM) with flying units must ensure compliance with this guidance. Unless otherwise noted, this publication applies to Air National Guard (ANG) and Air Force Reserve Command (AFRC). Life support officers (LSO) or MAJCOM Functional Managers (FM) for each MAJCOM and the ANG, as well as field operating agency (FOA) must send one copy of unit supplements to this publication to HQ USAF/XOOT, 1480 Air Force Pentagon, Washington DC 20330-1480. Send comments and suggested improvements to this instruction on an AF Form 847, **Recommendation for Change of Publication**, through appropriate channels, in accordance with (IAW) AFI 33-360, Volume 1, *The Air Force Publications and Forms Management Programs--Developing and Processing Publications*, to HQ USAF/XOOT. Intervening levels will evaluate all recommendations and forward the **AF Form 847**, Recommendation for Change of Publication, to next echelon. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this instruction does not imply endorsement by the Air Force.

SUMMARY OF REVISIONS

This revision expands membership of the Life Support Executive Council (paragraph 7.2.), creates "Aircrew Protection Working Groups" (paragraph 7.4.7.), standardizes AFORM identifiers (**Table 1.**) and course descriptions (paragraph 7.11.), requires Academic Instructor School for ALS instructors (**Table 2.**), and adds guidance on minimum aircrew protective clothing requirements (**Attachment 2**). A | indicates revisions made to this publication from the previous edition.

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Section A— Overview

1. General:

1.1. MAJCOMs and the ANG must comply with the requirements for aircrew life support and survival equipment in this publication and applicable AF technical orders.

1.2. This instruction lists minimum training requirements for ALS continuation training (see **Table 1.**) and mandatory and desirable technician training for ALS personnel (see **Table 2.**).

2. Terms Explained (also see **Attachment 1**):

2.1. Air Force ALS Program. A program that ensures the proper functioning of the AF Life Support System.

2.2. Air Force ALS System. A system that consists of:

2.2.1. Life sustaining equipment, inspection, and maintenance of AF life support systems.

2.2.2. Training for aircrews and passengers: for in-flight, escape from the aircraft, descent to ground-level, and on the ground while preparing for rescue or return to duty.

2.3. Life Support Equipment (LSE). Personal, pre-positioned, or aircraft-installed equipment that protects, sustains, or saves human life.

2.3.1. Applicable maintenance agencies have responsibility for those portions of aircraft escape systems forming an integral part of the aircraft and require maintenance expertise to remove, install, and inspect LSE (i.e., escape slides, ejection seats, oxygen bottles, wing-well life rafts, etc.).

3. HQ USAF Focal Points:

3.1. HQ USAF/XOOT (Operations Training Division, Directorate of Operations & Training) serves as the office of primary responsibility (OPR) for ALS Program policy. HQ USAF/ILEO and SAF/AQPS serve as offices of collateral responsibility (OCR).

3.2. HQ USAF/ILEOR (Civil Engineer Operations Readiness Branch), is the OPR for Nuclear, Biological, and Chemical defense, to include policy and training (Program Element Monitor for chemical/biological defense equipment, PE 27593).

3.3. SAF/AQPS (Directorate of Global Power Projection; Office of the Assistant Secretary of the Air Force for Acquisition), manages funds for both Life Support Program Elements (PE): 64706F for Engineering, Manufacturing & Development (EMD): and PE 72833F for initial procurement items.

3.4. SAF/AQRT (Science Technology and Engineering), manages PE 060321F, Crew Systems Technology.

4. Program Objectives:

4.1. Increase combat capability of the total weapon system by enhancing the performance of the aircrew.

4.2. Reduce injuries and increase survival rates by providing aircrews and passengers with the best equipment available through new technologies and training.

4.3. Identify requirements for new equipment by analyzing:

4.3.1. Customer-validated operational requirements.

4.3.2. Operational deficiencies.

4.3.3. Approved USAF suggestions and recommendations, and AF technical order improvement reports.

4.3.4. Aircraft mishap recommendations.

4.3.5. Joint programs from other DoD agencies.

4.4. Train aircrews and passengers to use their LSE in a manner which reinforces recall during emergency situations. Training should be accomplished using the same equipment and realistic scenarios

aircrews and passengers are likely to encounter. Realistic training will insure aircrews have confidence in their equipment when needed.

4.5. Maintain LSE in optimum condition.

5. ALS Program Management:

5.1. An Air Staff LSO oversees the entire AF ALS Program and is the AF Career Field Manager (AFCFM) for Air Force Specialty Code (AFSC) 1T1X1. The Air Staff LSO should have served previously as a Squadron, Wing, or MAJCOM LSO.

5.2. Each MAJCOM, Air Force Safety Center, and ALS System Program Office should assign an LSO. If a MAJCOM elects not to appoint a full time LSO, the next highest ranking rated officer above the ALS FM will serve as the MAJCOM LSO.

5.2.1. An active duty ALS MAJCOM FM (1T100) should be assigned to manage ALS matters for each MAJCOM/DO with flying missions (includes the ANG and AFRC). Also, an ALS 1T100 should be assigned to the Human Systems Center Program Offices: HSC/YAD and HSC/YAS.

5.2.2. A Survival, Evasion, Resistance, Escape (SERE) Training Instructor (AFSC 1T0X1) should be assigned to the MAJCOM ALS staff.

5.3. A wing LSO should be assigned at each wing. If commanders elect not to appoint a full-time wing LSO, the highest ranking squadron LSO will also serve as the wing LSO. LSOs must be assigned to each flying squadron and rescue flight. LSOs are an option in the ANG IAW paragraph 14.1 of this instruction. LSOs earn "L" prefixes for their AFSC (11XX or 12XX) after completing the prerequisites of AFI 36-2105, *Officer Classification*.

5.3.1. Wing LSOs should be rated aircrew members. Squadron LSOs must be rated officers (pilot or navigator). Both should serve a minimum of 18 months.

5.3.2. A senior noncommissioned officer (SNCO) (AFSC 1T100/1T1X1) will be assigned to serve as the ALS superintendent at each FOA, wing, group.

Section B—ALS Program Responsibilities

6. Shared Responsibilities. MAJCOMS and FOA directors of operations (DO), the ANG/XOOS, AFRC, and comparable positions in the Numbered Air Forces (NAF), centers, and subordinate units share responsibilities for execution of ALS policy.

7. HQ USAF/XOO (Director of Operations & Training) through XOOT, Operations Training Division, this office:

7.1. Oversees MAJCOM and ANG ALS programs (Egress and Survival Equipment functions remain under maintenance).

7.2. Convenes and chairs the AF ALS Executive Committee (ALSEC) annually. The purpose of the ALSEC is to prioritize and coordinate efforts, assign and track action items, and provide overall direction for the life support program. Committee membership consists of ALS representatives from:

7.2.1. SAF/AQP.

7.2.2. Headquarters Air Force Medical Operations Agency (AFMOA/SGOO).

- 7.2.3. Air Force Safety Center.
 - 7.2.4. MAJCOM/ANG FM and three-letter officer responsible for their life support program.
 - 7.2.5. Air Force Materiel Command's (AFMC) Human Systems Center Program Office: HSC/YA/YAS/YAC/XRT.
 - 7.2.6. HQ USAF/ILMM/ILMY (career field manager for Egress, Survival Equipment, and Weapons Systems Sustainability Manager).
 - 7.2.7. AF Combat Survival School Commander or Senior CMSgt.
 - 7.2.8. Representative from AMC/XP and ACC/DR (provide requirements expertise).
 - 7.2.9. Representative from HQ USAF/ILSP.
- 7.3. Coordinates Air Staff, MAJCOM, ANG, and FOA operations and training issues (aircrew and technician).
- 7.4. Coordinates with other Air Staff offices that manage:
- 7.4.1. LSE.
 - 7.4.2. Aircrew Chemical Defense Equipment.
 - 7.4.3. Research and development (R&D) of LSE.
 - 7.4.4. Logistics.
 - 7.4.5. Egress
 - 7.4.6. Survival equipment.
 - 7.4.7. Host an annual air staff working group with representatives involved with "Aircrew Protection" responsibilities. Membership should include representatives from; USAF/XOOT (Aircrew Training), USAF/ILMM (Egress and Survival Equipment Career Field Manager), AFMOA/SGOO (Aerospace Medicine), SAF/AQPS (Life Support PEM), HQ USAF/ILEO (CE Readiness), HQ USAF/ILSP (Logistics), AFSC (Safety), and aircrew representation. The intent of the working group is to build a network of contacts, keep lines of communication open, and resolve Aircrew Protection issues that are cross-functional in nature. Similar working group meetings will be held at MAJCOMS and Wings.
- 7.5. Advises on ALS issues.
- 7.6. Briefs Air Staff directorates and other officials or organizations on LSE and training issues.
- 7.7. Serves on the Joint Aircrew Systems Executive Steering Committee and other AF, joint inter-agency, and industry groups, boards, task forces, committees, and conferences dealing with ALS operational issues.
- 7.8. Assists Air Education and Training Command (AETC) in formulating, implementing, and evaluating formal training programs for ALS personnel.
- 7.9. Convenes the biennial World-Wide Life Support Conference (WWLSC). The WWLSC will be combined with the Multi-Command ALS Conference. Egress and Survival Equipment biennial conference dates should overlap this conference so attendees can combine for at least one day to address life support triad issues.

7.10. Participates in or sends a representative to other command ALS conferences, as needed.

7.11. Manages the USAF Outstanding Aircrew Life Support: Airman, Noncommissioned Officer (NCO), Senior NCO, Officer, and Civilian, of the Year Awards Program, IAW AFI 36-2807, *Headquarters United States Air Force Deputy Chief of Staff Plans and Operations Annual Awards Program*.

7.12. Monitors:

7.12.1. MAJCOM, ANG, and FOA's ALS programs.

7.12.2. Command-level technical concerns about ALS systems/subsystems and equipment.

7.12.3. Newly developed, Commercial-off-the-shelf (COTS) life support equipment or Non-Developmental Items (NDI) that AF aircraft and aircrews might use.

7.12.4. Aircraft acquisition, conversion, and modification programs to ensure integration of LSE and weapon systems.

7.12.5. Development of Operational Requirements Documents (ORD) IAW the Paperwork Reduction Act of 1974, Amended in 1996, and AFI 37-160, Volume 8. Also, develop Mission Needs Statements (MNS).

7.12.6. Performance of agencies appearing in paragraphs 9. through 15.

7.13. Reviews aircraft mishaps in which aircrews have used LSE.

7.14. Works with OPRs and the AFMC ALS System Manager to ensure they distribute technical publications and training equipment before new LSE is issued.

7.15. Resolves any problems with formal ALS and survival training program quotas.

8. HQ USAF/SE (Chief of Safety). Through the Air Force Safety Center, Life Sciences Branch, this office:

8.1. Provides statistical data, analysis, and recommendations on all mishaps or incidents involving LSE or training.

8.1.1. Provides this information to MAJCOMs to improve their lesson plans.

8.2. Monitors the AF ALS Program to ensure aircrews maintain safety standards.

8.3. Provides technical assistance on request to aircraft mishap investigation boards.

8.4. Serves on the ALSEC.

8.5. Attends the WWLSC and MAJCOM meetings. Briefs attendees on aircrew use of LSE, their performance during aircraft mishaps, and general safety concerns.

8.5.1. Attends, as required, Air Force, Joint Agency, and industry meetings, boards, task forces, and conferences that deal with LSE.

8.5.2. Provides a representative to the air staff "Aircrew Protection" working group.

9. SAF/AQP (Office of the Assistant Secretary of the Air Force for Acquisition, Directorate Global Power Program):

- 9.1. Monitors the development and acquisition of new LSE.
- 9.2. Assigns an officer to serve on the ALSEC and ensures the ALS Program Management Directive contains the research, development, and acquisition strategies and priorities of the ALSEC.
- 9.3. Monitors ALS EMD programs aimed to satisfy validated user requirements.
- 9.4. Attends the WWLSC and briefs attendees on ALS research, development, and acquisition issues.
- 9.5. Provides representation to the air staff "Aircrew Protection" working group.

10. USAF/SG (Surgeon General). Through the Air Force Medical Operations Agency (AFMOA/SGOO), this office:

- 10.1. Manages all aerospace physiological training and support programs according to AFI 11-403, *Air Force Aerospace Physiological Training Program*.
- 10.2. Oversees the medical aspects of the ALS program.
- 10.3. Sets guidelines for infection control.
- 10.4. Provides representation to the ALSEC and "Aircrew Protection" working group.

11. Air Force Materiel Command (AFMC). Through the Human Systems Center, this office:

- 11.1. Manages specific LSE from its development, sustainment and engineering, to final disposition (cradle-to-grave).
- 11.2. Ensures the fielded ALS systems/subsystems are integrated with newly developed technologies, systems, and subsystems to the maximum extent possible.
- 11.3. Monitors and participates in the acquisition of ALS systems and subsystems for COTS aircraft converted for AF missions.
 - 11.3.1. Monitors and establishes procedures for the acquisition of LSE through the Non-Development Items (NDI) and COTS programs. Monitors and tracks the procurement, approval, and capability of NDI and COTS systems used to meet AF requirements.
- 11.4. Conducts an ALS science and technology program to ensure technologies will exist to satisfy AF requirements.
 - 11.4.1. Works with and monitors other service's LSE acquisition/developments to avoid duplication of effort in the science and technology program.
 - 11.4.2. Transitions ALS technology out of the laboratories into development and production programs.
 - 11.4.3. Sets up a technology transfer plan to move exploratory and advanced development ALS technologies into full-scale development.
- 11.5. Sets up procedures to control and coordinate the configuration of ALS subsystems and equipment among MAJCOMs and the ANG.
- 11.6. Encourages operational input to ALS programs by ensuring MAJCOM and ANG attend key acquisition events.
- 11.7. Develops, publishes, and maintains a Life Support Master Development Plan (LSMDP).

11.8. Employs a Human Systems Support Manager (SSM) to provide centralized logistics support of the ALS systems.

11.8.1. Issues a master configuration list that includes the subsystems and equipment in the AF ALS System.

11.8.2. Serves as the approval authority for aircrew and aircraft-installed LSE through T.O. publication.

11.8.3. Establishes procedures for intra-command coordination and configuration control of ALS subsystems and equipment.

11.8.4. Assists MAJCOMs in determining training requirements for system changes.

11.8.5. Coordinates the initial production funding plan for each ALS endeavor.

11.9. Provides technical assistance and laboratory analysis to aircraft mishap safety investigation boards as requested.

11.10. Monitors the shelf-life program IAW AF Manual (AFMAN) 23-110, Volume 7, Part 3, *The AF Shelf-Life Program*.

11.11. Leads effort to develop and submit Sustainment Engineering Requirements Plans (SERPS).

11.12. HSC/YA schedules Egress and Survival Equipment conferences to overlap with the LSEC.

12. Air Force Operational Test and Evaluation Center:

12.1. Plans and conducts realistic, objective, and impartial operational test and evaluation (OT&E) to determine the operational effectiveness and suitability of AF systems and their ability to meet mission needs.

12.2. Advises MAJCOMs and ANG on operational test issues.

13. MAJCOM/ANG (may delegate their responsibilities to NAF POCs or appoint weapon system team chiefs to handle specific issues):

13.1. Provides representation to the ALSEC. Present their positions on the “health” of their life support programs to the ALSEC.

13.2. Establishes command-specific ALS programs according to AFIs and applicable MAJCOM and ANG instructions.

13.2.1. Annually reviews and prioritizes all endeavors within the ALS Program.

13.2.2. Reviews aircraft mishaps and incident reports involving LSE and resulting recommendations.

13.2.3. Reviews and validates Table of Allowance 016 for accuracy and adequacy.

13.3. Identifies operational requirements and prepares MNS and ORDs as required.

13.4. Participates in periodic R&D program reviews as AFMC requests them.

13.4.1. Provides qualified aircrew member expertise early in the requirements definition phase and is involved throughout the R&D and acquisition process.

13.5. Participates in and monitors the OT&E of LSE.

13.6. Attends AF, joint agency, and industry meetings, groups, boards, task forces, committees, and conferences dealing with developing, modifying, or researching LSE.

13.7. Advises users when the lead MAJCOM will no longer procure specific LSE for them. This will allow them time to budget for the equipment themselves.

13.8. Establishes ALS continuation and egress training programs. Ensures crew members meet the ALSCT requirements IAW AFI 14-105, *Unit Intelligence Mission and Responsibilities*, and AFI 36-2209, *Code of Conduct Training*.

13.9. Conducts ALSCT IAW Table 1 of this instruction. Table 1 lists all ALSCT courses, but not all of them are required by every MAJCOM. MAJCOMs will supplement this instruction to tailor ALSCT courses to fulfill their needs. MAJCOMs will update their lessons plans based on current safety information provided by the AF Safety Center.

Table 1. ALS Continuation Training (ALSCT) Requirements.

AFORMS Identifier	Courses
LS01	Local Area Survival
LS02	High Threat, Combat Survival Trn (CST)
LS03	Water Survival School - WST
LS04	Aircrew Chemical Defense Trn (ACDT)
LS05	Egress w/ACDE
LS06	Life Support Equipment (LSE) Trn
LS07	Egress Training, Ejection
LS08	Egress Training, Non-ejection
LS09	Hanging Harness Trn (HHT), Ejection
LS10	HHT, Non-ejection
LS11	Low Threat Combat Survival Trn
LS12	HHT, w/ACDE
LS13	Helicopter Emergency Egress Trn

NOTES:

1. Reference MAJCOM Supplements or MDS Specific guidance for frequencies
2. Grounding items: LS01, LS02, LS07, LS08, LS09, LS10, LS13
3. LS05 is a MAJCOM option. However, the training must be completed at least once in the aircrew's assigned MDS aircraft
4. LS10 and LS12 are MAJCOM options for aircrew that do not fly with parachutes
5. LS courses may be combined as long as all required training is accomplished

13.10. Establish ALSCT programs providing each aircrew member "hands-on" training to the maximum extent possible.

NOTE:

"Hands-on" is defined as demonstrating proficiency by physical use of aircrew and passenger equipment. Training must challenge the crew member to better prepare and equip themselves for the unexpected and enable them to handle challenging situations.

13.11. Lead commands, IAW AFPD 10-9 "Lead Operating Command Weapon System Management," will be OPR for developing core curriculum for each of the following blocks of instruction:

13.11.1. Local Area Survival (LS01): One time event conducted prior to the first flight at home-station to familiarize aircrew members with local equipment and rescue procedures.

13.11.2. High-Threat Combat Survival Training (CST) (LS02): Training designed for aircrew members whose duties require them to fly over or deploy to enemy territory. CST provides the aircrew member an opportunity to demonstrate their ability to operate LSE, employ survival/evasion techniques, and rescue procedures under simulated combat conditions.

13.11.3. Water Survival Training (WST) (LS03): Academic and equipment training designed to provide aircrew members the opportunity to demonstrate their ability to use weapon system specific flotation devices and LSE components available during an over water emergency. Also, demonstrate ability to employ water survival techniques and rescue procedures. The objective of this training is to emphasize survivor needs using water related equipment, accessories, and procedures. Additionally, this training will include emphasis on the use of appropriate passenger support equipment and the proper care of passengers during a survival situation.

13.11.4. Aircrew Chemical Defense Training (ACDT) (LS04): Academic and equipment training in which the aircrew member demonstrates and performs donning, doffing, buddy dressing procedures using either the first-generation ACDE or Aircrew Eye/Respiratory Protection (AERP) equipment, and Contamination Control Area procedures.

13.11.5. Egress Training (LS05, LS07, LS08): Evaluates the aircrew's ability to demonstrate use of aircrew and passenger LSE and primary and secondary air and ground egress points. Practice egress scenario to enforce the importance of aircrew coordination actions required for emergency situations. Ensure crew members are aware of their responsibilities for conducting safety briefings IAW AFI 11-202 Vol. 3, *General Flight Rules*.

13.11.6. Life Support Equipment (LSE) Training (LS06): Academic and equipment training in which aircrew members demonstrate their ability to locate, preflight, and use all aircrew and passenger LSE carried aboard unit aircraft or issued to crew members. Ensure crew members are briefed on the limitations and safety issues related to LSE.

13.11.7. Hanging Harness Training (HHT) (LS09, LS10): Evaluates the aircrew's ability to perform critical post ejection/egress and parachute malfunction procedures while suspended under the parachute canopy. Aircrew members are required to demonstrate the ability to modify, steer, and land parachutes, and use the personnel lowering device (PLD), if applicable. This requires practice for all aircrews using actual flight gear to include ACDE (LS12). This training should be conducted concurrently with egress training when practical.

13.11.8. Low-Threat Combat Survival Training (CST, Low Threat) (LS 11): An academic and equipment training program designed for aircrews whose duties do not require them to fly over enemy territory. Aircrews will demonstrate their ability to use LSE and explain survival techniques and rescue procedures.

13.11.9. Helicopter Emergency Egress Device (HEED) Training (LS13): All helicopter crew members will attend a one-time S-V84-A class as specified in AF Catalog (AFCAT) 36-2223, *USAF Formal Schools*. For continuation training, crew members will view the Underwater

Egress Training (UET) (606040DF) and HEED (802514DN) videos and receive training IAW Table 1 of this instruction.

13.12. Periodically evaluates subordinate unit's ALSCT programs.

13.13. Conducts performance based evaluations during MAJCOM and unit staff assistance visits and MAJCOM Inspector General (IG) Inspections. Performance based evaluations focus on a crewmember's ability to fully utilize their life support equipment in scenarios they are likely to encounter.

13.14. Establishes and evaluates ALS technician/supervisor training programs IAW AFI 36-2201, *Developing, Managing, and Conducting Training*. LSOs and enlisted ALSCT instructors must comply with AFI 36-2105, AFI 36-2108, *Airman Classification* (formerly AFR 39-1), and Table 2 of this instruction.

Table 2. ALS Personnel Training Requirements.

		MANDATORY COURSES		DESIRABLE COURSES
Member	Course Number	Course Title	Course Number	Course Title
Officer	S-V8G-A S-V80-A S-V86-A (1) S-V87-A (2)	USAF Aircrew Life Support Officer Combat Survival Training Course Water Survival Training, Parachuting Arctic Survival Training	MAIS001 L5AZA1T231 001 AM-490	Academic Instructor School Airborne (Parachutist) USAF Academy Basic Freefall Parachute
Enlisted	S-V80-A (3) S-V86-A (1,3) S-V87-A (2) MAIS001 (3,4)	Combat Survival Training Course Water Survival Training, Parachuting Arctic Survival Training Academic Instructor School	L5AZA1T231 001 AM-490	Airborne (Parachutist) USAF Academy Basic Freefall Parachute

NOTE:

1. This course may be substituted with course S-V90-A, Water Survival Training, Non-Parachuting.
2. This course is mandatory for assignment in the theater; it is desirable out-of-theater. This course is mandatory for an instructor assigned to instruct the unit's ALSCT program when aircrew consistently fly into an arctic environment (above the 50th parallel).
3. These courses are mandatory for an instructor or supervisor assigned to instruct the unit's ALSCT programs; it is desirable otherwise for 3- and 5-level ALS personnel. S-V80-A and S-V86-A or S-V90-A courses are mandatory for 7-level upgrade training.
4. It is mandatory for ALS instructors (1T1X1) filling aircrew training or core instructor positions to attend any one of the following courses: Academic Instructor School (AIS) (MAIS001, AIS Mobile Course, (MAIS014), or Basic AIS Mobile Course, (MAIS020), ACC Life Support Instructor Course (Y120006), or Principles of Instruction Course (J3AIR3S200 002).

13.15. Coordinates formal training requirements among the MAJCOM, ANG, and AFRC Director of Personnel for submitting class quotas for LSOs and technicians to attend AETC courses.

13.16. Ensures LSOs fly periodic sorties in primary assigned aircraft to evaluate the adequacy of personal and aircraft-installed LSE.

13.17. Provides guidance to units for using, controlling, and safeguarding LSE, and for issuing, receiving, and maintaining aircrew hand guns during contingency operations.

13.18. Establishes and evaluates unit quality assurance (QA) programs.

13.19. Evaluates AFTO Form 22, Technical Order Improvement Report and Reply, and AF Form 1000, United States Air Force Suggestion, which refer to ALS systems.

13.20. Lead MAJCOMs publish a weapon system specific AFI prescribing policy for maintenance and configuration requirements for aircrew and aircraft-installed LSE to meet the intent of AFD 10-9, *Lead Operating Command Weapon Systems Management*.

13.21. Monitors the overall operation of the ALS Program in subordinate units. Insures units notify MAJCOM FMs prior to changing manpower authorizations.

13.22. Monitors the forecasting of replacement requirements for MAJCOM and ANG calendar time-change items (T.O. 00-20-9, *Forecasting Replacement Requirements for Selected Calendar and Hourly Time-Change Items*).

13.23. Monitors material deficiency reports (MDR) applying to the ALS system.

13.24. Serves as a focal point concerning unit ALS matters.

13.25. Notifies the AF Combat Survival Training School of any planned disposal or turn in of life support equipment. They can often make repairs that are sufficient for training use.

13.26. Annually, host a working group meeting with MAJCOM representatives involved with "Aircrew Protection" responsibilities. Membership should include; Egress, Survival Equipment, Aerospace Medicine, CE Readiness, Logistics, Survival Instructors, Safety, and aircrew representation. The intent of this working group is to foster a spirit of cooperation, keep lines of communication open, and resolve Aircrew Protection issues that are cross-functional in nature. Forward appropriate issues to Air Staff counterparts. Similar working group meetings will be held at Wing level.

14. Wing, Group, or Center Commander:

14.1. Appoints an LSO or the Senior Aircrew Life Support NCO as the wing ALS manager. Appoints a Senior Aircrew Life Support NCO as the wing life support superintendent to assist the LSO in the management of the wing ALS program. *EXCEPTION:* Appointment of an LSO is optional in the ANG.

14.2. Implements policies and procedures as higher headquarters direct.

14.3. Conducts ALS technician training. Monitors ALS personnel performing additional duties outside of Control AFSC IAW AFI 36-2101, *Classifying Military Personnel (Officer and Airman)*.

14.4. Ensures ALSCT is accomplished and course objectives provide realistic training for aircrews to meet operational taskings. ALSCT programs will maximize exposure to assigned LSE with emphasis on the operation of the LSE under adverse conditions. Audiovisual products may be used to enhance training, but will not be used exclusively to meet ALSCT requirements.

14.4.1. Prepares lesson plans according to the applicable aircrew training manuals and equipment T.O.s.

- 14.5. Avoids sending aircrew personnel into high threat areas if they have not acquired proper skills provided in ALSCT courses.
- 14.6. Ensures SERE training instructors (AFSC 1T0X1) who conduct ALSCT programs will develop and administer unit programs as directed.
- 14.7. Ensures the care, use, and organizational/intermediate-level inspection and maintenance of LSE takes place according to AF and commercial T.O.s and higher headquarters directives.
- 14.8. Implements QA programs to evaluate ALS technician qualifications, training, and equipment maintenance.
- 14.9. Conducts and participates in OT&E of LSE.
- 14.10. Maintains current file of T.O.s, publications, and other pertinent data applying to the operation, inspection, maintenance, issue, use, and training of LSE on assigned aircraft.
- 14.11. Initiates MDRs, T.O. improvement reports, and operational hazard reports affecting LSE and procedures.
- 14.12. Monitors aircraft conversion and Time Compliance Technical Order (TCTO) modification programs. Advises higher headquarters of program delays or supply problems as they arise.
- 14.13. Prepares and submits operational requirements to higher headquarters for evaluation and action IAW AFI 10-601, *Mission Needs and Operational Requirements Guidance and Procedures* (formerly AFR 57-1).
- 14.14. Orders custom-made oxygen masks for aircrews as required.
- 14.15. Participates in aircraft mishap investigations as required.
- 14.16. Ensures adequate funding for the management of ALS programs and purchase of time-change items.
- 14.17. Hosts "Aircrew Protection Working Group" meetings at least semi-annually. Membership should include representatives from; Egress, Survival Equipment, Logistics, Aerospace Medicine, CE Readiness, Survival Instructors, Safety, and aircrews. The intent of the working group is to foster a spirit of cooperation, keep lines of communication open, and resolve Aircrew Protection issues that are cross-functional in nature. Forward appropriate issues to MAJCOM counterparts.

15. Squadron Commanders :

- 15.1. Appoint an LSO who is qualified and maintains proficiency in assigned aircraft. Together, the LSO and NCOIC of life support will manage the squadron ALS program. Appointment of an LSO is optional in the ANG.
- 15.2. Implement policies and procedures as higher headquarters direct.
- 15.3. Conduct OT&E programs on LSE as higher headquarters direct.
- 15.4. Supervise the unit ALS technician training program.
- 15.5. Ensure instructions, publications, manuals, procedures, and T.O.s pertaining to inspection, maintenance, and use of assigned LSE, systems, and subsystems are maintained according to MAJCOM and ANG directives.

- 15.6. Maintain records for all supply actions and budgets for future requirements.
- 15.7. Conduct unit ALSCT, as directed, to ensure aircrew members demonstrate "hands-on" proficiency to the extent possible.
- 15.8. Monitor ALSCT to ensure currency.
- 15.9. Initiate MDRs, T.O. improvement reports, and operational hazard reports affecting LSE and procedures.

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Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 10-601, *Mission Needs and Operational Requirements Guidance and Procedures*

AFPD 10-9, *Lead Operating Command Weapon Systems Management*

AFI 11-206, *General Flight Rules*

AFPD 11-3, *Life Support*

AFI 11-403, *Air Force Aerospace Physiological Training Program*

AFMAN 23-110, Volume 7, Part 3, *The AF Shelf-Life Program*

AFI 32-1024, *Standard Facility Requirements*

AFI 36-2101, *Classifying Military Personnel (Officer and Airman)*

AFI 36-2105, *Officer Classification*

AFI 36-2108, *Airman Classification*

AFI 36-2209, *Survival and Code of Conduct Training*

AFCAT 36-2223, *USAF Formal Schools*

AFI 36-2903, *Dress and Personal Appearance of Air Force Personnel*

AFP 110-3, *The Civil Law*

TO 00-20-9, *Forecasting Replacement Requirements for Selected Calendar and Hourly Time-Change Items*

TO 00-20-9-1, *Forecasting Replacement Requirements for Cartridge/Propellant Actuated Devices CAD/PAD*

TO 14D1-2-1, *Personnel Parachutes*

TO 14P3-1-112, *Maintenance Instructions Nomex® Flight Gear, Coveralls, Gloves, Jackets*

TO 14P3-1-131, *Operation and Maintenance Instructions With Illustrated Parts Breakdown Aircrew Chem-Defense Ensemble*

TO 14P3-5-91, *Operation and Maintenance Instructions With Illustrated Parts Breakdown, CWU-74/P Flyer's Anti-Exposure Coverall*

TO 15X-1-1, *Oxygen Equipment*

AS 016, *Special Purpose Clothing and Personal Equipment*

Abbreviations and Acronyms

ACC—Air Combat Command

AETC—Air Education and Training Command

AFCFM—Air Force Career Field Manager

AFEPL—Air Force Electronic Publications Library

AFMC—Air Force Materiel Command

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

AFSC—Air Force Specialty Code

ALS—Aircrew Life Support

ALSCT—ALS Continuation Training

ALSEC—ALS Executive Committee

ANG—Air National Guard

DP—Director of Personnel

CFR—Code of Federal Regulations

COTS—Commercial Off-the-Shelf

FM—Functional Manager

FOA—Field Operating Agency

GSU—Geographically Separated Unit

IAW—In Accordance With

IG—Inspector General

LSE—Life Support Equipment

ACDE—Aircrew Chemical Defense Ensemble

LSMDP—Life Support Master Development Plan

LSO—Life Support Officer

MAJCOM—Major Command

MDR—Material Deficiency Report

MNS—Mission Needs Statement

NAF—Numbered Air Force

NCO—Noncommissioned Officer

NDI—Non-Development Items

PDO—Publishing Distribution Office

OPR—Office of Primary Responsibility

ORD—Operational Requirements Document

OT&E—Operational Test and Evaluation

QA—Quality Assurance

R&D—Research and Development

RDT&E—Research, Development, and Evaluation

SERE—Survival, Evasion, Resistance, and Escape

SJA—Staff Judge Advocate

SNCO—Senior Noncommissioned Officer

SSM—Systems Support Manager

TCTO—Time Compliance Technical Order

Terms

Air Force ALS Program—A program that ensures the proper functioning of the AF Life Support System.

Air Force ALS System—A system that consists of: life sustaining equipment, inspection, and maintenance of AF life support systems: training for aircrews and passengers for in-flight, escape from the aircraft, descent to ground-level, and on the ground while preparing for rescue or return to duty.

Life Support Equipment (LSE)— Personal, pre-positioned, or aircraft-installed equipment that protects, sustains, or saves human life. Applicable maintenance agencies have responsibility for those portions of aircraft escape systems forming an integral part of the aircraft and require maintenance expertise to remove, install, and inspect LSE (i.e., escape slides, ejection seats, oxygen bottles, wing-well life rafts, etc.).

Attachment 2**AUTHORIZATION FOR WEARING THE MC-1 SURVIVAL KNIFE**

A2.1. Who May Wear the Survival Knife and When. Any USAF aircrew member may wear the MC-1 knife for flying duties as long as it remains on the flight uniform.

This attachment defines who may wear the MC-1 survival knife and when. It also explains how an aircrew member should respond to civil authorities when questioned about the knife.

A2.2. Responsibility of the Aircrew Member. Aircrew members have the same responsibility for their survival knives that security police have for their side arms. Aircrew members are subject to military and civil penal action if they unsheathe the MC-1 knife outside of a survival or training situation.

A2.3. Action in Case of Civil Apprehension. If a civil officer arrests an aircrew member who is wearing the survival knife as part of the flight uniform, the aircrew member will:

A2.3.1. Not resist apprehension. Comply with the civil officer's instructions.

A2.3.2. Explain to the civil officer that the knife is part of their authorized flight uniform.

A2.3.3. Notify the nearest Chief, Security and Law Enforcement, who contacts the Staff Judge Advocate (SJA) of the nearest military installation. The SJA, in turn, reports the incident to HQ USAF.

Attachment 3

MINIMUM AIRCREW CLOTHING REQUIREMENTS

A3.1. Aircrew Flight Clothing: MAJCOMs, ANG, and FOAs will comply with the following, unless MAJCOM Directives specifically **waives the unit** from the following clothing requirements:

A3.1.1. Undergarments: Cotton or fire retardant undergarments are mandatory due to the added protection. Undergarments made of 100 percent nylon or polyester material are not authorized during flight.

A3.1.2. Flight Coveralls, Nomex®: To comply with the intent of AFI 11-202 Vol 3, *General Flight Rules*, and TO 14P3-1-112, *Maintenance Instructions Nomex® Flight Gear, Coveralls, Gloves, Jack-ets*, the outer layer of clothing will be of fire retardant material. Coveralls listed in T.O.s 14P3-1-112, 14P3-1-131, *Operation and Maintenance Instructions With Illustrated Parts Breakdown Aircrew Chem-Defense Ensemble*, 14P3-5-61, *Operation, Service, and Maintenance Instructions Quick-Don-ning Anti-Exposure Flying Coverall Type CWU-16/P*, and 14P3-5-91, *Operation and Maintenance Instructions With Illustrated Parts Breakdown, CWU-74/P Flyer's Anti-Exposure Coverall*, are the only coveralls aircrew are authorized to wear during flight. Sleeves should be closed at the wrist to assure maximum fire protection.

A3.1.3. Flight Jackets: The unit commander determines seasonal requirements. Flying jackets listed in AS 016, *Special Purpose Clothing and Personal Equipment* and TO 14P3-1-112 are the only jackets aircrew are authorized to wear during flight. The A-2 leather flight jacket does not provide the same degree of fire protection as the Nomex® flight jackets and should not be worn during flight. Wear of the A-2 leather flight jacket is addressed in AFI 36-2903, *Dress and Personal Appearance of Air Force Personnel*.

A3.1.4. Flight Gloves: Nomex® flight gloves listed in AS 016 and TO 14P3-1-112 are the only gloves aircrew are authorized to wear during flight. As a minimum, crew members are required to have gloves in their possession in case of emergencies. Gloves will not have fingers exposed, cut off, or modified in any manner.

A3.1.5. Flight Boots: The primary aircrew boots, as authorized in AS 016, are the FLU-3/P or the FLU-8/P. All-leather flight boots are the only boots aircrew are authorized to wear during flight. Boots constructed with canvas, nylon, or a non-nomex cloth/non-leather outer material (i.e., jungle boots, High Tech®, or Corcoran®, etc.) and low quarters are not authorized during flight operations. These boots/shoes will not be worn as they provide no ankle support during a parachute landing fall (PLF) and provide no protection during a fire or in a chemical environment.

A3.1.5.1. Lace-up zipper inserts may be used.

A3.1.5.2. Boots, flying, extreme cold, Sorrel Premium, Mukluks, and/or vapor barrier thermal are authorized for wear during winter flight operations at the discretion of unit commander.

A3.1.6. Extreme Cold Weather Trousers, Flyers, Nomex® (CWU-18/P) and Cold Weather Coverall (CWU-64/P): These items are authorized for issue as a unit option.